

HIGH THROUGHPUT HOLE FORMING SYSTEM WITH  
MULTIPLE SPINDLES PER STATION

ABSTRACT OF THE DISCLOSURE

A high throughput drilling system for printed circuit board hole formation. Two spindles are disposed at each spindle station, doubling the number of holes produced in a given time period. Each spindle is connected to an overhead linear drive by a mini slide. A first set of the spindles, one for each spindle station, is driven by a first X axis linear drive. A second set is driven by a second X axis linear drive. The work piece table is elongated to support work pieces for all stations, and is supported by a set of bearing guides, with outrigger bearings coupled to the table by flexure mounts that relieve stress due to differential temperature expansion rates between the work piece table and the base table. High speed spindles are employed to obtain higher productivity, with larger holes routed by router tools, eliminating the need for stocking large drill sizes on the system tool changer.